

MUNDELL & ASSOCIATES, INC.

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November 11, 2009

Ms. Erin Brittain
Project Manager
Voluntary Remediation Program
Office of Land Quality
100 North Senate Avenue
Indianapolis, Indiana 46204

Re: **Further Sewer Evaluation**
Michigan Plaza
3801-3823 West Michigan Street
Indianapolis, Indiana 46222
IDEM Incident # 0000198
IDEM VRP # 6061202
MUNDELL Project No. M01046

Dear Ms. Brittain:

This *Further Sewer Evaluation* is being submitted to the Indiana Department of Environmental Management (IDEM) by MUNDELL & ASSOCIATES, INC. (MUNDELL), on behalf of AIMCO, to summarize the findings of the evaluation of the sewer line going west along Michigan Street towards Holt road, as discussed in our recent meeting on *October 15th, 2009*.

BACKGROUND

The Marion County Health Department (MCHD) conducted residential wells sampling southwest of the intersection of Michigan Street and Holt Road and found vinyl chloride (VC) impacts slightly above MCLs.

IDEM had a meeting with representatives of potentially responsible parties, Allison Transmission (Arcadis), Genuine Parts (Keramida) and AIMCO (MUNDELL) on October 15th, 2009 in response to the vinyl chloride impacts at the private wells located at 4018 W Vermont Street and 4042 W Vermont Street residences in Indianapolis, Indiana. The purpose of the meeting was to come up with an action plan to decipher who may/may not be contributing to the VC impacts in those residential wells. IDEM outlined specific tasks for the Allison Transmission, Genuine and AIMCO representatives at the meeting.

MUNDELL's Further Sewer Evaluation

As discussed in our recent meeting on *October 15th, 2009* the task outlined by IDEM for MUNDELL was a sewer camera investigation on the sewer line going west towards Holt road. Subsequent to our meeting, MUNDELL further evaluated the sewer line on Michigan Street going west towards Holt road, which is summarized below.

The sewer line proceeding west on Michigan Street goes just west across Holt road and immediately Ts North (see **Attachment A**). There seem to be no other sewer lines in the area just west of Holt and Michigan.

Per the **Department of Public Works (DPW)**, the closest sewer line to the residential area (with vinyl chloride impacts) by the intersection of Cossell Road and Vermont Street is to the northeast of the area of interest, by Michigan and Holt. However, the line runs East from that intersection. The other line is by the intersection of Arthur and Vermont Streets. A manhole is located at that intersection, with the line running south. This line seems to be privately-owned. Looking at the distance between this residential area and the nearby sanitary sewer line locations, it is less likely that these houses would be connected to either of those lines. Since these houses are not on city water, these could likely be on septic systems.

The **Indianapolis Water Company** was contacted since IWC seems to be servicing that general vicinity, and it was verified that these residences (4018 W Vermont and 4042 W Vermont) are currently not receiving any sewer bills, thus indicating they are not likely connected to a sewer line.

Health and Hospital Corporation, MCHD was contacted to verify if there was any information available regarding septic systems for any of these residences. The HHC only has drawings and locations of septic systems of parties who apply for a permit for septic systems, and they did not have any such records for these residences. However, not all septic systems have a permit in place.

Thus, there doesn't seem to be a realistic link between the sewer line on Michigan and Holt and any of the homes. Even if there was some release from this sewer, it would not have proceeded to impact the homes especially at such great depth (35 and 75 feet). Also, groundwater flow direction from the sewer line heading north would be to the southwest towards Big Eagle Creek, and would miss those residential wells.

Other considerations that support that the observed impacts are not from the sewer line:

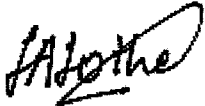
- 1) There are no indications of shallow PCE/TCE impacts in these areas (including Keramida wells MW-170S and D). Where sewer line impacts have been seen in the vicinity of Michigan Plaza, shallow PCE/TCE groundwater concentrations were evident.

- 2) The greatest groundwater impacts observed are deep and only show VC. VC is caused by the breakdown of PCE/TCE/Cis-1,2-DCE under anaerobic environments that occur deeper in the aquifer. The impacts indicate breakdown has occurred far from the observed impacts (upgradient) and likely from PCE/TCE source materials that have made their way deep into the aquifer system.

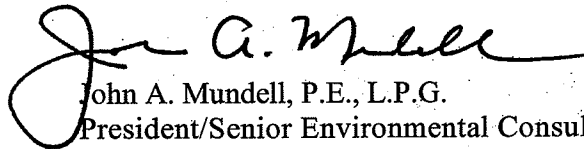
We appreciate the opportunity to present this evaluation to IDEM, and believe that further sewer camera investigation is not required given the situation and our findings. If you have any questions, please don't hesitate to contact us at (317) 630-9060 or via email (jmundell@MundellAssociates.com; llothe@MundellAssociates.com).

Sincerely,

MUNDELL & ASSOCIATES, INC.



Leena A. Lothe
Project Environmental Engineer



John A. Mundell, P.E., L.P.G.
President/Senior Environmental Consultant

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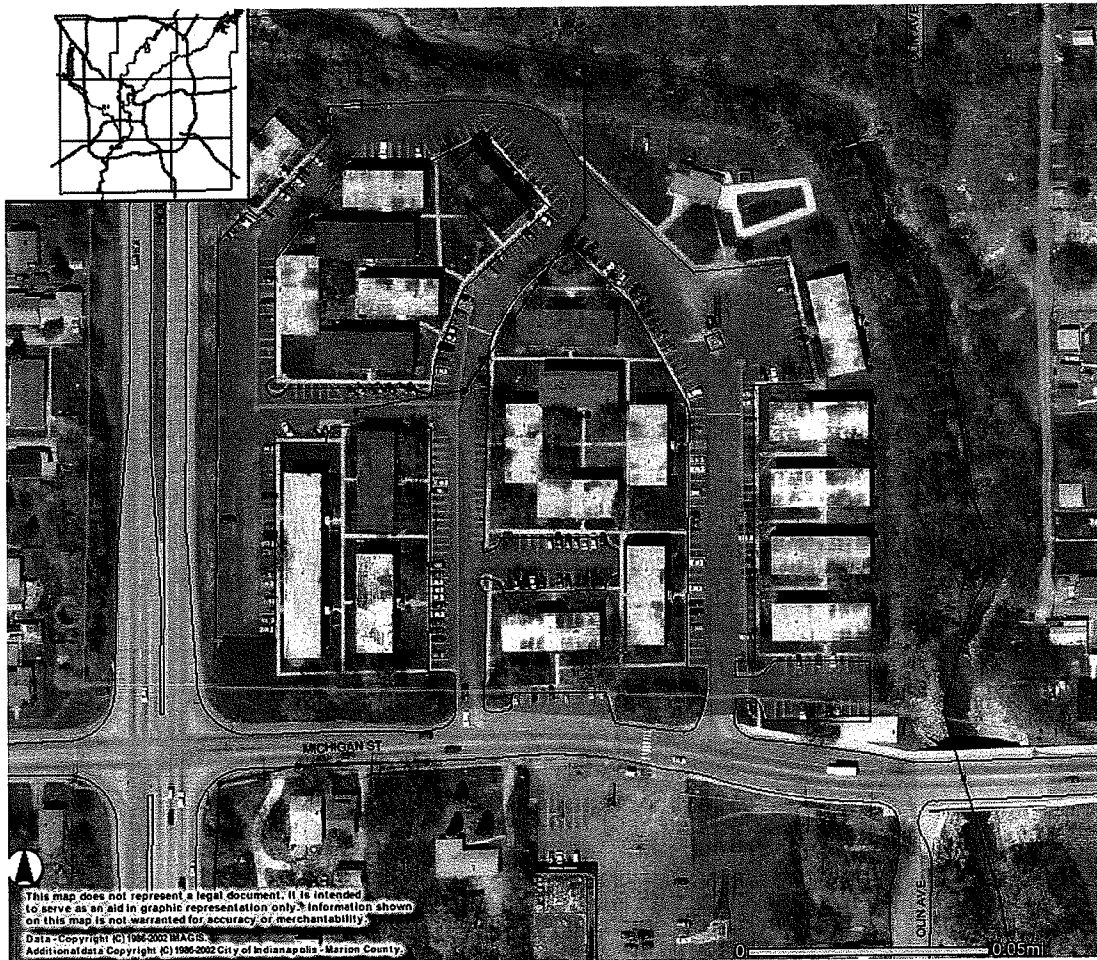
Attachments A: Storm Water & Sanitary Sewer Lines in the Vicinty

cc: Mr. Stephen Evanoff, AIMCO

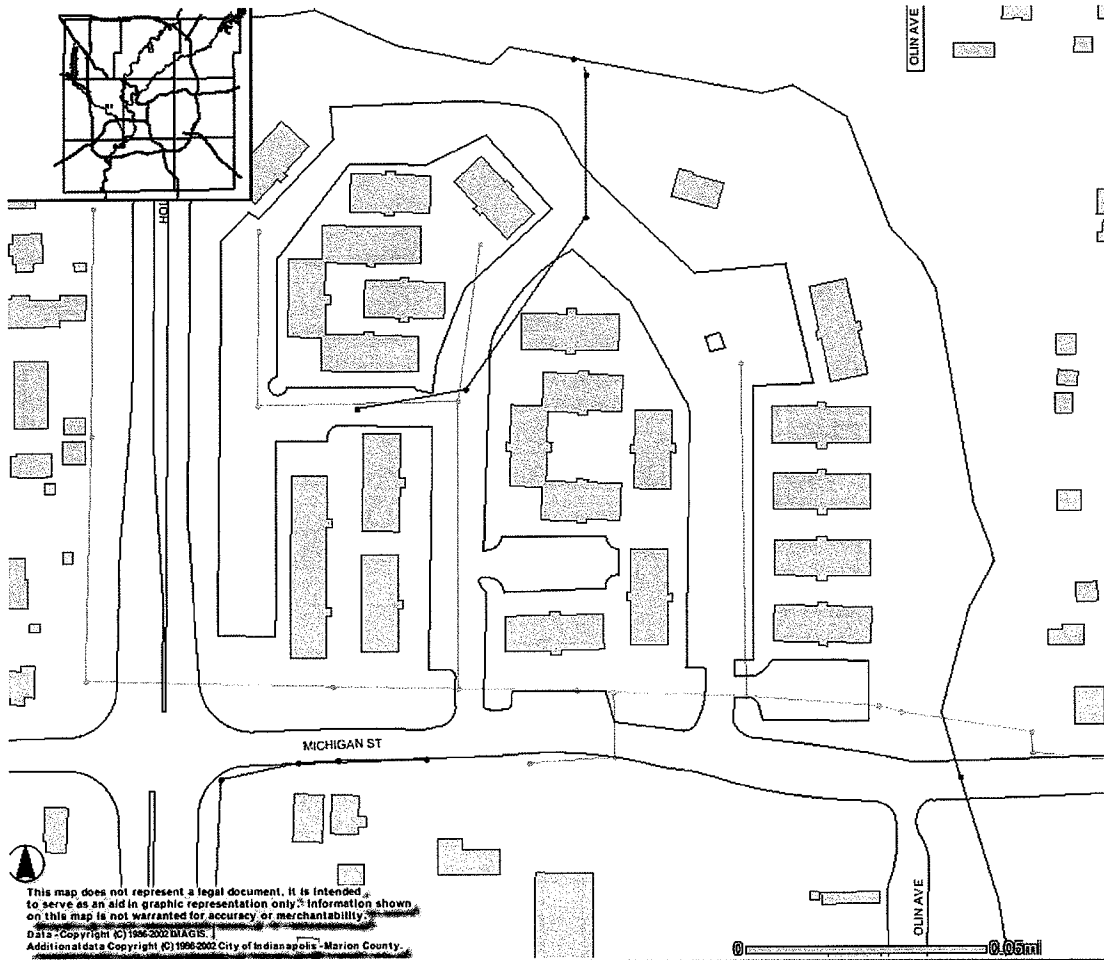
APPENDIX A

Storm Water & Sanitary Sewer lines in the Vicinity

Attachment A
Michigan Meadows Apartments and Michigan Plaza
Storm and Sanitary Sewer Lines.



**Michigan Meadows Apartments and Michigan Plaza
Storm and Sanitary Sewer Lines (without aerial photograph).**



**Michigan Meadows Apartments and Michigan Plaza
Storm and Sanitary Sewer Lines (without aerial photograph; smaller scale).**

